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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
ERLAND SORENSEN ET AL	: EXAMINER: PEREZ, G.
SERIAL NO: 09/508,685	:
RCE HEREWITH FILED:	: GROUP ART UNIT: 2834
FOR: A ROTARY ELECTRIC MACHINE	:

REQUEST FOR RECONSIDERATION

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Responsive to the Official Action of May 28, 2002, Applicants in the above-identified patent application respectfully request reconsideration of the rejections set forth therein.

Favorable reconsideration of this application is respectfully requested. Claims 19-37 are pending.

Claims 19, 25-29, 35-37 stand rejected as being unpatentable over Trautner et al. (U.S. Patent No. 4,106,069, hereinafter Trautner) in view of Brietenbach et al. (U.S. Patent No. 4,785,138, hereinafter Brietenbach); Claims 20-23 are rejected as being unpatentable over Trautner in view of Brietenbach and in further view of Elton et al. (U.S. Patent No. 5,036,165, hereinafter Elton); Claim 24 stands rejected as being unpatentable over Trautner in view of Brietenbach and in further view of Penczynski et al. (U.S. Patent No. 3,959,549, hereinafter Penczynski); Claims 30-34 stand rejected as being unpatentable over Trautner in view of Brietenbach and further in view of Platzer (U.S. Patent No. 4,121,148).

The outstanding Office Action asserts that Trautner teaches substantially the invention of Claim 19 except for the electric winding, but relies on Brietenbach for this feature. Applicants respectfully traverse this characterization of Trautner.

Claim 19 is directed to an alternating current rotary electric machine configured to be directly connected to a distribution or transmission network. The machine includes a brushless excitation system. The excitation system is switchable between positive and negative excitation modes of operation, as explained in the present specification (see, e.g., Figure 3A and 3B, and the associated discussion in the substitute specification beginning at page 6, line 20 through page 7 line 18). Moreover, the invention defined by Claim 19 includes a brushless excitation system that is switchable between positive and negative excitation modes of operation. As explained in the specification, the system switches between positive and negative current via bridge 1 (Figure 2) and bridge 2 (Figure 2). By supporting a change between positive and negative modes of operation, the present inventors recognized that a "maintenance free" system may be obtained because there is a rapid response to network disturbances which are not present in positive mode devices alone. (See, e.g., Specification, page 4, lines 26-30).

The outstanding Office Action does not describe where Trautner describes a brushless excitation system that is switchable between positive and negative excitation modes of operating and it is respectfully submitted that Trautner does not in fact teach such a system. Trautner relies on the field winding 6 being connected to an exciter rectifier 7 (see, e.g., column 3, line 28). If the voltage on the field winding 6 exceeds a fixed, set value, the voltage monitoring circuit 17 automatically gives a switching command to the switching element 16, whereby the switching element 16 is closed and the excitation rectifier 7 is short circuited (Trautner column 3, lines 54-59). Furthermore, as seen in Figure 2 of Trautner, only a positive mode of operation is seen. Accordingly, it is respectfully submitted that

Trautner does not disclose the feature of a brushless excitation system that is switchable between positive and negative excitation modes of operation. Furthermore, there is nothing in Trautner to teach or suggest that the rotating machine is able to connect directly to a transmission or distribution network. Rather, Trautner appears to be a conventional device that operates at conventional voltages. Brietenbach is neither asserted, nor teaches, the brushless excitation system of Claim 19 that is also missing from Trautner.

Because Claims 25-27 depend from Claim 19 it is respectfully submitted that these dependent Claims also patentably define over Trautner. As with Claim 19, Claim 28 also includes the brushless excitation system of Claim 19, and therefore patentably distinguishes over Trautner in view of Brietenbach for at least the same reasons with respect to Claim 19. Similarly, Claim 29 which depends from Claim 19 defines over the combination of Trautner in view of Brietenbach. For substantially the same reasons as set forth with respect to Claim 19, it is respectfully submitted that Claims 35-37 also define over Trautner in view of Brietenbach. Thus, in summary, because Trautner does not disclose all the elements of Claims 19, 25-29, 35-37 and Brietenbach is not asserted for disclosing a brushless excitation system, as claimed, it is respectfully submitted that a *prima facie* case of obviousness has not been made with regard to Claims 19, 25-29, 35-37 as the asserted prior art does not include all of the elements in these claims, namely the brushless excitation switchable between positive and negative excitation modes of operation.

In addition to these arguments, Applicants incorporate by reference the arguments made in the Amendment filed March 11, 2002, with regard to the combination of Trautner in view of Brietenbach. With regard to these comments, it is noted that on page 7 of the outstanding Office Action, the Office Action disagrees with at least two assertions made in the March 11, 2002 Amendment. First, the outstanding Office Action asserts that Brietenbach would be suitable for use in a rotating electric machine. Apparently, Applicants'

arguments have not been fully understood. Brietenbach has a conductive sheath and as such would be inappropriate for use in a rotating electric machine that relies on induced fields for generating electricity. In contrast, in a linear motor, the windings are not wound on top of one another and therefore there is no high field strength created by the respective turns in a stator winding. Thus, the induced fields (and therefore, large induced currents) that would be present by having a conductive sheath in the linear motor winding of Brietenbach, cannot be used in a rotating electric machine, where there are high induced fields. Thus, Applicants respectfully traverse the assertion that if the linear motor winding in Brietenbach is suitable in a linear motor it must therefore be suitable for use in a rotating electric machine.

Furthermore, the outstanding Office Action asserts that the winding in Elton could be made at the time of manufacturing because "the resin can be poured on the conductor, then the cable can be wound on the magnetic core, and then the resin is completely cured to the desired stiffness." Applicants are unsure how the outstanding Office Action supports this notion because no such teaching is found in the asserted prior art and it is believed that such a process is impractical, if not impossible. Moreover, the winding in Elton does not include just one layer of semiconductor resin, but two layers arranged coaxially with a relatively thick layer of insulating material sandwiched therebetween. Therefore, according to the process hypothesized by the outstanding Office Action, a first layer of the resin material must be applied to the conductor in an uncured state, then an outer insulating material must be applied after the winding with the uncured epoxy is placed in the rotating electric machine, and then yet another layer of epoxy semiconducting material is applied over the insulation as an outer semiconductor layer. How a uniform application of these three materials could be applied in any reliable manner, particularly when a winding is usually threaded within a stator or a body for a field winding, is simply impractical. Accordingly, Applicants respectfully traverse the characterization of page 8, the first full paragraph, that the winding

in Elton could be constructed according to the manner hypothesized in the outstanding Office Action.

Applicants traverse the rejection of Claims 20-23 as being unpatentable over Trautner in view of Brietenbach and in further view of Elton. As discussed above, Trautner nor Brietenbach (nor Elton) disclose the feature of the brushless excitation system, and therefore does not teach or suggest all the elements of Claims 20-23, therefore does not render obvious the invention defined by Claims 20-23.

For substantially the same reasons it is respectfully submitted that Claims 24 and 30-34 also patentably define over the asserted prior art, as the tertiary references of Penczynski and Platzer do not teach or suggest the element that is also absent from Trautner and Brietenbach, namely the absence of a brushless excitation system that is switchable between positive and negative excitation modes of operation. Consequently, in view of the present remarks it is respectfully submitted that the invention defined by Claims 19-37 is patentably distinguishing over the asserted prior art.

The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully submitted,

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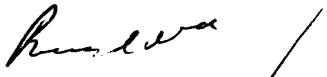

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